

New findings of pignosed arrowtooth eel *Dysomma brevirostre* (Synphobranchidae) in the Western Ionian Sea (Mediterranean Sea)

by

Letizia SION, Daniela BATTISTA, Francesco MASTROTOTARO & Roberto CARLUCCI (1)

RÉSUMÉ. - Nouvelles captures de *Dysomma brevirostre* (Facciola, 1887) (Synphobranchidae) mer Ionienne occidentale (mer Méditerranée).

Trois spécimens de *Dysomma brevirostre* (Facciola, 1887) (Synphobranchidae) ont été capturés le long des côtes italiennes (mer Ionienne) au cours de campagnes de chalutage réalisées en 1998, 1999 et 2006. On en donne ici une description morphométrique. L'espèce est très rare et connue uniquement dans quelques milieux en Méditerranée et dans l'océan Atlantique. C'est la première fois qu'elle est décrite en mer Ionienne.

Key words. - Synphobranchidae - *Dysomma brevirostre* - MED - Western Ionian Sea - First record.

The family of Synphobranchidae (Anguilliformes) includes eight genera and twenty-three species. In particular the genus *Dysomma* made up of 9 species (Robins and Robins, 1989), is characterized by a fleshy, plicate and papillose snout, which overhangs the tip of the lower jaw, by a moderate to long gape (usually long) and by small and restricted gills slits.

Dysomma brevirostre (Facciola, 1887), commonly known as the "pignosed arrowtooth eel", is an elongated fish with a bulbous snout tip ornamented by conspicuous papillae and ridges (Saldanha and Bauchot, 1986). The larva, known as *Leptocephalus telescopicus* Schmidt, 1913, is characterized by an elongated pointed snout, telescopic eyes and by the presence of pectoral fins (Blache *et al.*, 1970).

The species was described by Facciola (1887) as *Nettastoma brevirostre* studying some specimens found ashore on the beaches of Messina. After the first findings, other specimens, in larval, post-larval or adult stadium, were found in the Mediterranean Sea, along

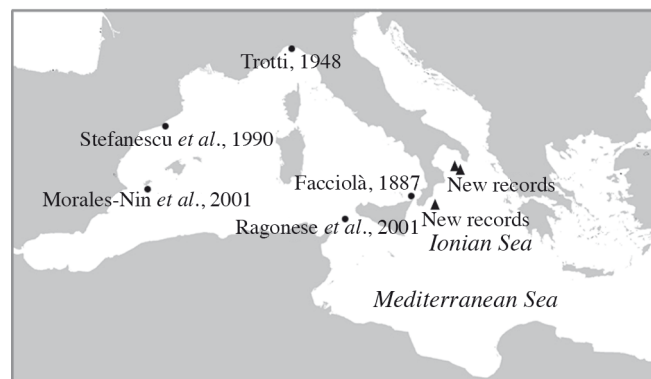


Figure 1. - Location of *Dysomma brevirostre* in the Mediterranean Sea, with indication of previous findings (year, author) and the new records in the Western Ionian Sea. [Localisation des signalements de *D. brevirostre* en mer Méditerranée avec indication de la littérature de référence.]

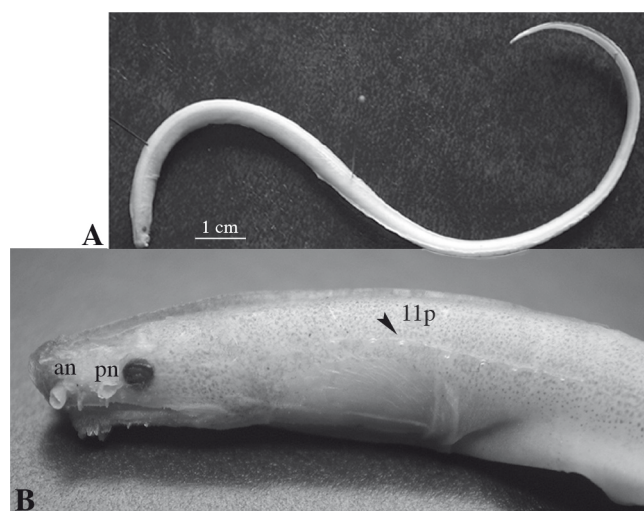


Figure 2. - A: Specimen of *Dysomma brevirostre* caught in the Western Ionian Sea (184 mm SL) in 2006. B: Cephalic zone with indication of anterior nostril (an), posterior nostril (pn) and lateral line pores (llp). [A : Spécimen de *D. brevirostre* capturé en mer Ionienne occidentale (184 mm SL) en 2006. B : Partie céphalique avec indication des narines antérieure (an) et postérieure (pn) et des pores de la ligne latérale (llp).]

the Messina coast (Supino, 1905; Grassi, 1913) in the Strait of Sicily (Ragonese *et al.*, 2001), in the Ligurian Sea (Trotti, 1948), in the Catalan Sea (Stefanescu *et al.*, 1990) and in the South-West Balearic Islands (Morales-Nin *et al.*, 2001) (Fig. 1).

Other findings of *D. brevirostre* were recorded from the North Eastern Atlantic, along the south coast of Portugal (Marques and Saldanha, 1998) and Madeira Islands (Blache *et al.*, 1970); in the Western Atlantic in Miami waters (Bohlke and Robins, 1968), and in the Central Pacific in Hawaiian waters (Smith and Castle, 1981). Moreover the larvae have been found in the Eastern South Atlantic off the coast of Cabinda, Congo and Gabon (Blache *et al.*, 1970).

This work points out the first presence of *D. brevirostre* in the Western Ionian Sea.

MATERIALS AND METHODS

Three specimens of *D. brevirostre* were collected in the Western Ionian Sea. Two of them were sampled by bottom trawling during surveys carried out in March 1998 along the Calabrian coast (38°22,41'N-16°39,11'E, 379 m) and in May 1999 along the Apulian coast (39°49,05'N-17°48,25'E, 264 m); the third was captured in March 2006 off the Apulian coast using a sledge dredge, modified Sanders model, (39°50,18'N-17°44,53'E, 447 m) (Fig. 1).

(1) Department of Zoology, University of Bari, Via Orabona 4, 70125 Bari, ITALY. [l.sion@biologia.uniba.it]

Table I. - Morphometric characters of two specimens of *Dysomma brevirostre* caught in 1999 and in 2006 in the Western Ionian Sea. [Caractéristiques morphométriques de deux spécimens de *D. brevirostre* capturés en 1999 et en 2006 en mer Ionienne occidentale.]

Measurements	Specimen 1999				Specimen 2006			
	mm	% SL	% PAL	% HL	mm	% SL	% PAL	% HL
Standard length (SL)	235	-	-	-	184	-	-	-
Head length (HL)	16.2	6.9	40.4	-	13.9	7.5	39.6	-
Head width	2.6	1.1	6.6	16.3	2.8	1.5	8.0	20.3
Head height	3.9	1.6	9.7	23.9	2.7	1.5	7.8	19.8
Max eye diameter	0.8	0.3	2.0	5.1	1.3	0.7	3.6	9.0
Inter-orbital width	1.9	0.8	4.8	12.0	1.4	0.7	3.9	9.9
Pre-orbital length	3.9	1.6	9.6	23.8	3.3	1.8	9.4	23.6
Post-orbital length	12.9	5.5	32.2	79.7	10.0	5.4	28.7	72.4
Upper jaw length	5.2	2.2	13.0	32.2	4.4	2.4	12.6	31.8
Lower jaw length	4.3	1.8	10.7	26.6	3.4	1.9	9.8	24.7
Jaw length	5.6	2.4	14.0	34.7	4.5	2.4	12.9	32.7
Pre-dorsal length	19.1	8.1	47.6	-	18.0	9.7	51.3	-
Pre-anal length (PAL)	40.0	17.0	-	-	35.0	18.9	-	-
Gill opening length	1.4	0.6	3.6	8.8	0.8	0.4	2.3	5.9

They were identified using the taxonomic key of the family Synphobranchidae (Robins and Robins, 1989); the main morphometric measurements were only taken for the specimens collected in 1999 and in 2006.

This latter specimen is preserved in the collection of the Zoological Museum of the University of Bari (Code 1186).

RESULTS AND DISCUSSION

The specimens collected in 1999 and 2006 were 235 mm and 184 mm in standard length (SL) and weighed 2.28 g and 1.70 g respectively.

The head and the body are uniformly brown coloured and covered in tiny dark spots. The mid-dorsum and the dorsal fin are pale, while the ventral edge of the body near the tail tip is dusky. The figure 2 shows the specimen captured in 2006 with the detail of the cephalic zone with prominent nostrils and lateral line pores.

The main morphometric measurements and the percentages of the standard length (SL), pre-anal length (PAL) and head length (HL) are reported in table I. On the lateral line 9 pores can be seen in the specimen collected in 1999 and 10 in the specimen collected in 2006.

The main morphological measurements and their relationships are in agreement with those reported by other authors (Supino, 1905; Grassi, 1913; Bohlke and Robins, 1968; Blache *et al.*, 1970; Smith and Castle, 1981; Saldanha and Bauchot, 1986).

Although all findings of *D. brevirostre* in the Mediterranean Sea occurred only on the western side of the basin, the wide distribution of the species (in tropical and subtropical areas) and its pelagic larval dispersion lead us to suppose that it could be spread throughout the basin. Consequently the occasional findings could be due to the ability of this species to escape from the sampling gear such as trawl nets and dredges, as well as to its low population density.

REFERENCES

- BLACHE J., MAUL G.E. & L. SALDANHA, 1970. - Présence d'adultes et de larves de *Nettodarus brevirostre* et de *Nettodarus sp.* dans l'Atlantique orientale (Pisces, Anguilliformi, Nettodariidae). *Arq. Mus. Bocage*, 2(16): 319-331.
- BOHLKE J.E. & C.R. ROBINS, 1968. - Biological investigations of the deep sea. 36. The eel *Nettodarus brevirostris* in the Western Atlantic. *Bull. Mar. Sci.*, 18(2): 477-480.
- FACCIOLÀ L., 1887. - Intorno a due Lepadogastri ed un nuovo Nettastoma del Mare di Sicilia. Lettera al Ch. Dott. *Cristoforo Bellotti di Milano, Natur. Sicil.*, 6: 163-167.
- GRASSI B., 1913. - Metamorfosi dei Murenoidi; Ricerche sistematiche ed ecologiche. Iena Fisher. Prima monogr, 211 p.
- MARQUES A. & L. SALDANHA, 1998. - Three new records of bathyal fish species from the Portuguese slope: Notes on their morphology and distribution. *Cybiuim*, 22(3): 285-289.
- MORALES-NIN B., MAYNOU F., SARDA' F., CARTES J., MORANTA J., MASSUTI' E., COMPANY J., ROTLANT G., BOZZANO A., STEFANESCU C. & C. LIRO', 2001. - Size Influence in Zonation Patterns in Fishes and Crustaceans from Deep-Water Communities of Western Mediterranean. Scientific Council Meeting. Serial No. N4536, NAFO SCR Doc. 01/142.
- RAGONESE S., ZAGRA M., DI STEFANO L. & M.L. BIANCHINI, 2001. - Effect of cod end mesh size on the performance of the deep-water bottom trawl used in the red shrimp fishery in the Strait of Sicily (Mediterranean Sea). *Hydrobiologia*, 449: 279-291.
- ROBINS C.H. & C.R. ROBINS, 1989. - Family Synphobranchidae. In: *Fishes of the Western North Atlantic*. Vol. I, Part 9 (Bohlke E.B., ed.), pp. 207-253. New Haven, CT: Sears Foundation for Marine Research.
- SALDANHA L. & M.-L. BAUCHOT, 1986. - Family: Synphobranchidae. In: *Fishes of the North-eastern Atlantic and the Mediterranean*. Vol. 2 (Whitehead P.J.P., Bauchot M.-L., Hureau J.-C., Nielsen J. & E. Tortonese, eds), pp. 586-592. Paris: UNESCO.
- SMITH D.G. & P.H.J. CASTLE, 1981. - New Hawaiian records for two dysommene eels (Pisces, Synphobranchidae). *Bull. Mar. Sci.*, 31(2): 460-461.
- STEFANESCU C., LLORIS D. & J. RUCABADO, 1990. - Primeras citas de *Cataetys laticeps* (Osteichthyes, Bythitidae) y *Dysomma brevirostre* (Osteichthyes, Synphobranchidae) en el Mar Catalan (Mediterraneo Iberico). *Misc. Zool.*, 14: 135-143.
- SUPINO F., 1905. - Il *Todarus brevirostris* Gr. e Cal. Ric. *Lab. Anat. Comp. Norm. Roma*, 2(3): 255-259.
- TROTTI L., 1948. - Un nuovo esemplare ittologico della fauna profonda del Golfo Ligure: *Todarus brevirostris* (Facciola, 1887). *Atti Accad. Ligure Sci. Lett.*, 4: 93-102.

Reçu le 26 janvier 2007.

Accepté pour publication le 27 avril 2007.